IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

BEARBOX LLC and AUSTIN STORMS,

        Plaintiffs,

    v.

LANCIUM LLC,
MICHAEL T. MCNAMARA, and
RAYMOND E. CLINE, JR.,

        Defendants.

C.A. No. 21-534-GBW-CJB

PLAINTIFFS' OPENING POST-TRIAL BRIEF

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Abbreviation	Description
Patent or '433 Patent	U.S. Patent No. 10,608,433
PF	Plaintiff's Proposed Findings of Fact
Storms	Mr. Austin Storms
McNamara	Mr. Michael McNamara
Cline	Dr. Raymond Cline
Diagram	TX157.0003
Spec Sheet	TX157.0002
Data File	TX157.0008-0025

I.   **Introduction and Summary of Argument**

Austin Storms is the sole inventor of the inventions claimed in the '433 Patent. Storms

conceived of the inventions no later than April 11, 2019, built hardware and wrote code to reduce

the inventions to practice, and communicated everything in written documents to Lancium

months before McNamara and Cline even contend that they conceived of the inventions. After

Storms disclosed his system, Lancium immediately commercialized one embodiment of the

inventions. Lancium later implemented additional embodiments using the inventions to qualify

as, and commercialize, a load-only controllable load resource (CLR) within ERCOT. But the

claimed inventions are not limited to any particular embodiments such as using the inventions for

ancillary services within ERCOT. Instead, the claims cover the system that Storms disclosed to

Lancium, making him the rightful sole inventor of the '433 Patent.

Storms' testimony and corroborating documents tell the story of a self-taught innovator.

He testified to what he developed, how, why, and when. His corroborating evidence includes

source code files, data, drawings, whiteboard notes, photographs, emails, and text messages. He

disclosed his system to Lancium executives at a dinner and following McNamara's request, sent

written documents disclosing details. Although Storms did not choose the words used in the '433

Patent, the documents he gave to Lancium disclose the substance of the claimed inventions. And

while Storms did not choose how Lancium would commercialize his inventions, his documents

bear a striking resemblance to Lancium's commercial efforts.

No amount of trial-inspired testimony can recast Lancium's own empty documents, nor

can it erase what Lancium said about Storms' inventions behind closed doors. Lancium said the

inventions were new, exciting, and lucrative *after* Storms conceived of the inventions and

communicated them to Lancium. An inventorship claim does not require proof of motive or

intent. Lancium may not have intentionally taken Storms' ideas. They may have simply never

stopped to ask who the true inventors are, instead naming Lancium co-founders, Cline and

McNamara, as inventors. But intent is not an element of an inventorship determination.

In its attempt to distract from the merits, Lancium contradicted itself during trial, arguing

that Storms' documents are "inscrutable" with "infinite settled mathematical formulary," but

months earlier said his documents were nothing more than "trivial math calculations." Yet in

2019, Lancium internally described the inventions as "new," creating an "opportunity bigger

than we yet realize," and used those inventions to raise $150 million.

II.   Storms is the Sole Inventor of the Inventions Claimed in the '433 Patent

Storms is the sole inventor of the inventions claimed in the '433 Patent. "There is a

presumption that the inventors named on an issued patent are correct," so an inventorship claim

"must be proven by facts supported by clear and convincing evidence." *Univ. of Colorado*

Found., Inc. v. Am. Cyanamid Co., 342 F.3d 1298, 1308 (Fed. Cir. 2003). To do so, Storms must

prove that he conceived every element in each claim of the '433 Patent and that he

communicated the invention to McNamara and/or Cline, who in turn derived the claimed subject

matter from Storms' disclosures. *Id*. Storms "must establish prior conception of the claimed

subject matter and communication of the conception to" Lancium. *Price v. Symsek*, 988 F.2d

1187, 1190 (Fed. Cir. 1993). Storms can satisfy the communication requirement with

"corroborating evidence of a contemporaneous disclosure that would enable one skilled in the art

to make the invention." *Univ. of Colorado*, 342 F.3d at 1308 (quoting *Burroughs Wellcome Co.*

v. Barr Lab'ys, Inc., 40 F.3d 1223, 1228 (Fed. Cir. 1994)).

A.   Storms conceived of his cryptocurrency mining system and reduced it to practice by early 2019, as corroborated by contemporaneous documents and communications

"The test for conception is whether the inventor had an idea that was definite and

permanent enough that one skilled in the art could understand the invention; the inventor must

prove his conception by corroborating evidence, preferably by showing contemporaneous disclosures." *Univ. of Pittsburgh of Commonwealth Sys. of Higher Educ. v. Hedrick*, 573 F.3d 1290, 1298 (Fed. Cir. 2009). "An inventor need not know that his invention will work for conception to be complete." *Id.* Rather, Storms "need only show that he had the complete mental picture [of the claimed inventions] and could describe [them] with particularity." *Id.* To be named the inventor of the Patent, Storms must only prove that he conceived "the *subject matter* of the claims," not the words McNamara and Cline chose to use. *Ethicon, Inc. v. U.S. Surgical Corp.*, 135 F.3d 1456, 1460 (Fed. Cir. 1998) (emphasis added). Whether Storms' inventorship claim is "sufficiently corroborated is evaluated under a 'rule of reason' analysis." *Id.* at 1461.

In an effort to develop a marketable cryptocurrency mining solution, Storms conceived of his system, developed it, and reduced it to practice from late 2018 through early 2019, before meeting anyone from Lancium. PF 1-10. Storms sketched out algorithms and ideas on a whiteboard, wrote dozens of source code files, constructed a custom power distribution unit, and documented his efforts with photographs, emails, and metadata-preserved files. *Id.*; *Trovan, Ltd. v. Sokymat SA*, 299 F.3d 1292, 1302 (Fed. Cir. 2002) (the most reliable form of corroborating evidence takes the form of "physical records that were made contemporaneously with the alleged prior invention."). In addition, Storms reduced his system to practice, choosing exemplary values for variables,[1] simulating real-world conditions, successfully operating his invention as a proof of concept. PF 8, 16. *Trovan*, 299 F.3d at 1309 ("[R]eduction to practice alone is evidence that [a purported inventor] had a definite and permanent idea of the complete and operative

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[1] *Ex Parte Christopher S. Wilson & Viresh Rustagi*, 2013 WL 4096429, at *4 (P.T.A.B. Aug. 7, 2013) ("[O]ne of ordinary skill in the art [of computer software] would know that variables contain values, i.e., a variable is 'a named storage location capable of containing data that can be modified during program execution.'") (quoting Microsoft Computer Dictionary, Fifth Edition, Microsoft Press (2002), at 947).

invention.").

Storms, excited about his discoveries, finalized materials summarizing the structure and operation of his system, including an annotated diagram ("Diagram"), specifications ("Spec Sheet,") and modeling data ("Data File") capturing the output of his simulation. In summarizing his inventions, Storms used his own words. *Ingevity Corp. v. ITC*, 2021 WL 3440786, at *4 (Fed. Cir. July 21, 2021) (quoting *Dow Chem. Co. v. Astro-Valcour, Inc.*, 267 F.3d 1334, 1341 (Fed. Cir. 2001)) (finding that an inventor need not recognize "the invention in the same terms as those recited in the [claims]."). Storms' materials describe each and every element of the claimed inventions of the '433 Patent, and he sent them to Lancium on May 9, 2019. *NFC Technology, LLC v. Matal*, 871 F.3d 1367, 1372-74 (Fed. Cir. 2017) (data sheet faxed by inventor sufficient corroboration and communication of an invention).

B.   Storms communicated every element of the claimed inventions to Lancium

Storms communicated every element of the claimed inventions to McNamara and Cline after meeting McNamara at a cryptocurrency conference at Fidelity in Boston on May 3, 2019. PF 12; TX157. Storms and McNamara met at a cocktail reception then joined a group for dinner where they exchanged information about their businesses. *Id*. McNamara remembers the location and duration of the dinner, the identity of each attendee, the seating arrangement, the tone of voice everyone used, and even the shape of the table, although he denies recollection of the specifics of what Storms described to him, except that Storms was working on a project for GlidePath, a windfarm operator. *Id*. After dinner, Storms and McNamara began an exchange over text messages, with McNamara saying that Storms' "boxes may have some benefits vs the ones we are doing with J[V] driver" and "[l]ots of stuff to collaborate on." *Id*. On May 8, 2019, McNamara wrote "Storms, can you send me those design specs please!" *Id*. The next day, Storms sent an email to McNamara attaching details about his system, including the Diagram,

Spec Sheet, and Data File. *Id*. McNamara immediately reviewed Storms' message and

attachments and forwarded them to Eric Kutscha, Director of Engineering, John Cohen, CFO,

and Raymond Cline, Chief Computing Officer and named co-inventor of the '433 Patent. PF 12.

Blue Gentian v. Tristar Products, Inc., 2020 WL 241345, at *8-14 (D.N.J. 2020) (finding named

inventor's "eagerness" to receive purported inventor's information, and subsequent distancing, to

be relevant evidence to inventorship determination).

Cline admitted that he may have discussed Storms' documents with McNamara more

than once, although at trial he changed his story. PF 65. While Cline claimed at trial that

metadata on his computer suggested he never downloaded Storms' Data File until April 2021,

Lancium never produced any such metadata, and the metadata Lancium actually produced shows

that Cline was the custodian of a copy of Storms' Data File with a created date of May 9, 2019,

and a suffix of "(1)," indicating Cline had downloaded the file multiple times. PF 65; *Ethicon,

Inc. v. U.S. Surgical Corp.*, at 1462 ("[named inventor]'s trial testimony clashed with his earlier

deposition testimony").

1.   Independent claims 1, 17, and 20

a.   "A system comprising: a set of computing systems configured to perform computational operations using power from a power grid"

Storms' system includes a set of computing systems configured to perform computational

operations (*e.g.*, cryptocurrency mining) using power from a power grid. PF3, 6, 12 15. No later

than April 11, 2019, Storms conceived of a system that included a set of computing systems

(*e.g.*, cryptocurrency miners), configured to perform computational operations (*e.g.*, mine

cryptocurrencies) using power from a power grid provided through a remotely-controllable

power distribution unit (PDU). *Id*. Storms' conception is corroborated by contemporaneous

documents, including at least source code, specifications, system diagrams, comma-separated

value data files, photographs, emails, and text messages. *Id*. Claims 17 and 20 do not require using power from a grid, but otherwise have substantially the same claim limitations as claim 1. PF 38.

Storms communicated this claim element to Lancium at least because his documents, including the Spec Sheet and Data File, describe that his systems' 272 miners each consumed about 1.3 kW per hour, for a maximum amount of about 373 kW per hour, or about 31 kW per 5-minute interval. PF 16-17. Storms' Spec Sheet also noted specific types of miners, including a Bitmain S9, Dragonmint T1, or "similar." *Id*. Further, Storms' system was designed to use power from a power grid, as defined in the '433 Patent. A grid includes a power generation source, such as a windfarm, and Storms' system is plainly connected to a windfarm (or other generation source). PF 18, 49.

b.   "a control system configured to: monitor a set of conditions"

No later than April 11, 2019, Storms conceived of a system that was configured to monitor a set of conditions, including Bitcoin price, hashrate, network difficulty, the real-time market price for electricity, the day-ahead market price for electricity, power usage, and the state of the miners, such as whether a miner was on or off and its recent performance metrics. PF 7, 10, 19. His conception is corroborated by contemporaneous documents, including at least source code, specifications, system diagrams, comma-separated value data files, photographs, emails, and text messages. *Id*. Storms communicated this claim element to Lancium at least because Storms' documents, including the Spec Sheet, Diagram, and Data File, describe the ability of the system to monitor various conditions, such as real-time locational marginal pricing (LMP), day-ahead LMP, Bitcoin price, network difficulty, and network hashrate. PF20-22. Lancium did not dispute this element at trial.

c.   **"receive power option data based, at least in part, on a power option agreement, wherein the power option data specify: (i) a set of minimum power thresholds, and (ii) a set of time intervals, wherein each minimum power threshold … is associated with a time interval"**

Storms' Diagram, as sent to McNamara, shows a windfarm generating electricity with the option to either sell that electricity to the grid or to use that electricity for mining Bitcoin. PF 23-29, 33. The electricity is depicted as a lightning bolt, and the electricity enters what is depicted as a pipe with two paths: one connected to the grid where electricity can be sold, and another connected to a Bitcoin mining load where electricity can be consumed to mine Bitcoin. *Id*. This Diagram alone is sufficient evidence to overcome Lancium's argument that Storms did not conceive of a "power option agreement" as claimed in the Patent. The Court construed the term "power option agreement" to mean "an agreement between a power entity associated with the delivery of power to a load and the load, wherein the load provides the power entity with the option to reduce the amount of power delivered to the load up to an agreed amount of power during an agreed upon time interval such that the load must use at least the amount of power subject to the option during the time interval unless the power entity exercises the option." D.I. 219 at 7, 16. In Storms' diagram, the windfarm is a "power entity" (it is "associated with the delivery of power to a load"). And the windfarm has the option of selling to the grid or providing power to the load to consume for Bitcoin mining. PF 24-25, 33. The Court further construed the term "minimum power threshold" to mean "a minimum amount of power a load must use during an associated time interval." Storms' Diagram depicts the Bitcoin mining load using power in 5-minute increments whenever the windfarm elects to use the power for mining rather than sell it to the grid (which sale would occur in 5-minute increments). PF 30-32.

(i)   **In Storms' system, the generator sells power**

Storms' documents, including the Spec Sheet, Diagram and Data File, describe an

electrical connection between a power generation facility (windfarm) and a load, depicted by a lightning bolt and what is illustrated as a pipe. PF 29, 33. The contractual arrangement between the load and the generator could vary, but the presence of the connection between the two implies that they have agreed on a contractual arrangement defining how power would be delivered, at what price, and the like. PF 23-29, 33.

Storms' Diagram shows the generator with the option to sell power, depicted as dollar signs, because the generator is the entity that creates, owns, and delivers the power. PF 33. Because the generator business model is to generate, sell, and deliver power to the grid, a POSA would have understood (1) the generator already had both the functional capacity and compliance with existing regulatory/administrative requirements to do so, and (2) that this disclosure reflects that the generator must curtail power delivered to the load (the BearBox) in order to optionally sell power to the grid in 5-minute increments. PF 25, 29-33.

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(ii)   Storms' system operated on ERCOT 5-minute intervals

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Storms' documents show that his system operated on 5-minute intervals. The Data File described in explicit detail how the various conditions monitored by the system were used to determine a mining strategy (*e.g.*, to mine or not mine) every 5 minutes. PF 5, 26, 30-32. No claim requires the interval to change in duration. TX1.

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(iii)   Storms' system maintained energy usage for the duration of each interval

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Storms' system will continue to mine—and thereby use energy—for the duration of the 5-minute interval. PF 26-27, 30-32. Because Storms' system employed a remotely-controllable PDU addressable using network-based commands, Storms' logically separated decision-making control logic from the lower level PDU—which turned miners on/off and thereby controlled power consumption. PF 6, 28. This logical separation enabled Storms' decision-making control

logic to issue commands to the PDU from virtually anywhere. Upon receipt of the commands,
the PDU will fulfill its obligation by turning on/off miners and wait for the duration of the
interval for the next command. *Id*. In other words, because the PDU is not capable of overriding
these commands, the load in Storms' system—the PDU and miners—are obligated to use the
amount of power corresponding to the number relay commands issued by the higher-level
control logic. PF 6, 26-28. These concepts represent the Court's construction for a minimum
amount of power a load must use during an associated time interval. D.I. 218 at fn. 3 (finding
minimum power threshold may be zero for some intervals), 16.

As shown in a graph based on the data in Storms' Data File, in some instances, the most profitable option (highlighted in pink) was to mine Bitcoin (shown as the red line), while in other instances, the most profitable
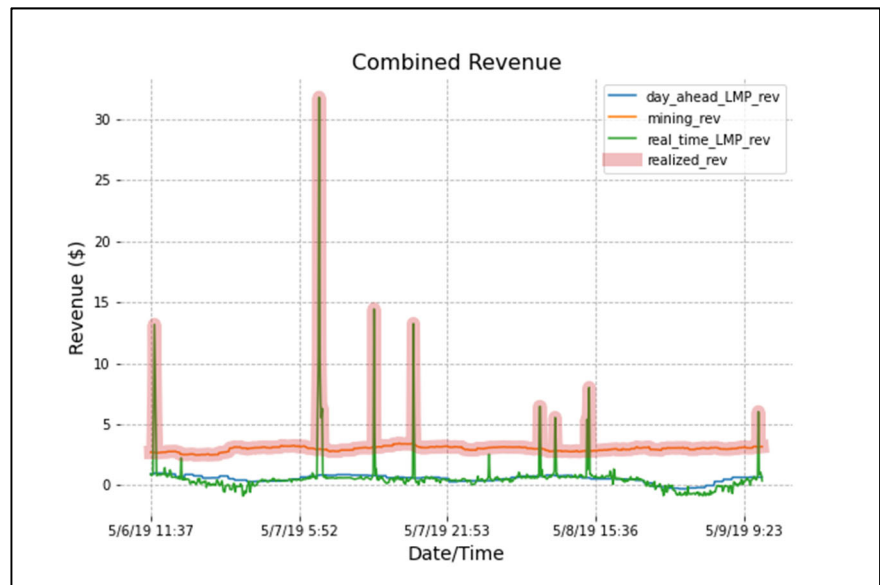
option was to sell energy to the grid when the current price of energy spiked (shown as the green
line). PDX3.24. Of the eight-hundred twenty-five (825) 5-minute intervals shown in the Data
File, the system monitored conditions, determined a performance strategy using breakeven and
revenue generation calculations, and instructed miners to utilize energy to mine for the duration
of 822 intervals. PF 32. Storms' System instructed the miners to stop in 23 instances. *Id*. In other
words, the system as described in the Data File continuously mines Bitcoin except for limited
instances when the miners are instructed to stop consuming power. *Id*.

(iv)   Storms' system was capable of operating at incremental power levels

Nothing in claim 1, or any other claim, requires the curtailment of less that the full amount of power being used by the system. TX 1. Though the claims require more than one "minimum power threshold," the Court construed the term such that a minimum power threshold may be zero, as long as not all minimum power thresholds are zero. D.I. 218 at fn. 3. Thus, Storms' systems' ability to fully curtail power usage, down to zero, in each interval from a system maximum power consumption level fully satisfies this aspect of claim 1.

Even if claim 1 did require the system to operate at some intermediate power level, Storms designed his system with different types of miners having different operational characteristics, such as power thresholds, operating frequencies, and more. PF 8, 16. Storms' documents explicitly state that his system includes 272 miners, individually controllable, consisting of a collection of "Bitmain s9, Dragonmint T1 or similar" miners. *Id*. Storms' source code files also define the varying power thresholds and performance characteristics for several different specific miners. *Id*. The use of these different miners would result in different power usage levels. *Id*.

Storms' custom PDU employed multiple, individually controllable relays that each powered an associated set of Bitcoin miners (*i.e.*, computing systems). PF 6. To communicate with and control various aspects of the cryptocurrency miners, Storms utilized the industry standard, open-source software referred to as "cgminer." PF 7. Storms' design enabled fine-grain load control—such as the ability to turn on some, but not all, miners—so that power usage and/or system performance could be dynamically manipulated in response to changing conditions. PF 6, 8, 37. All of these capabilities were communicated to Lancium in the Diagram, Spec Sheet, and Data File. *Id*.

      d.   **"responsive to receiving the power option data, determine a performance strategy … based on a combination of at least a portion of the power option data and at least one condition …, wherein the performance strategy comprises a power consumption target for the set of computing systems for each time interval … wherein each power consumption target is equal or greater than the minimum power threshold associated with each time interval"**

No later than April 11, 2019, Storms conceived of a system responsive to receiving the power option data, configured to determine a performance strategy, and based on a combination of at least a portion of the power option data and at least one condition, wherein the performance strategy comprises a power consumption target for the set of computing systems for each time interval, wherein each power consumption target is equal or greater than the minimum power threshold associated with each time interval, such as the 5-minute increments upon which the BearBox system would reevaluate and reinstruct its miners whether to consume power by mining or not. PF 32, 34.

Storms communicated this claim element to Lancium at least because the Storms' documents, including the Data File, describes the operation of Storms' source code, showing for each of eight-hundred twenty-five (825) 5-minute intervals, that the system monitored conditions, determined a performance strategy using breakeven and revenue generation calculations, and instructed miners to utilize energy to mine or instructed the miners to stop mining when curtailment was required. PF 32. In 822 of those intervals, the system used energy for the duration of that interval to mine Bitcoin; in the remaining 23 intervals, the miners were instructed to stop mining. *Id*. In other words, the system as described in the Data File continuously mines Bitcoin except for limited instances when the miners are instructed to stop consuming power. *Id*. The Diagram also shows these alternating periods of mining (shown with Bitcoin symbols) and curtailment/sellback activities (shown with dollar signs), as Lancium's

expert admits. PF 27, 31 (McClellan and Baer).

> e.   **"provide instructions to the set of computing systems to perform one or more computational operations based on the performance strategy"**

No later than April 11, 2019, Storms conceived of a system that provide instructions to the set of computing systems to perform one or more computational operations based on the performance strategy, e.g. mine cryptocurrencies, using power from a power grid provided through a remotely-controllable power distribution unit (PDU). PF 3, 6, 12 15, 36. Storms' conception is corroborated by contemporaneous documents, including source code, specifications, system diagrams, comma-separated value data files, photographs and email and text messages. *Id*.

This aspect of claim 1 was communicated to Lancium on May 9, 2019 at least because the Storms' Communication describes control systems' remotely controllable PDU, which enabled fine-grain load control of the systems 272 miners of varying types. PF 37. In one example using Bitmain S9 miners, each miner consumed about 1.3 kW per hour, for a maximum amount of power consumption of about 373kw per hour, or about 31 kW per 5-minute interval (about .1 kW per miner). *Id*.

2.   Dependent claims

a.   Claims 2-5

Dependent claims 2-5 depend from claim 1, and add specific data—power price and parameters associated with the computational operations to be performed—that is monitored and used in determining and implementing a performance strategy. PF 39. As explained above with respect to claim 1, Storms' system monitored real-time and day-ahead power prices and various parameters associated with Bitcoin mining computational operations, such as Bitcoin price, network hashrate and difficulty, and used this data in the manner recited in the claims. *Id*.;

Section II(B)(1). Storms' conception is corroborated by contemporaneous documentation, including at least source code, specifications, system diagrams, comma-separated value data files, and email messages. *Id*. Storms also communicated this information to Lancium for the reasons set forth above with respect to claim 1. *Id.*

> **b.**   **Claims 6-8, 13-14 and 19**

Dependent claims 6-8, 13-14 and 19 depend from either claim 1 or 17, and add the use of power option data for subsequent intervals, which is used in determining and implementing a revised performance strategy. PF 40. As explained above with respect to claim 1, Storms' system used monitored conditions and power option data over multiple, consecutive intervals in the manner recited in the claims. *Id*.; Section II(B)(1) (infra). Storms conception is corroborated by contemporaneous documentation, including at least source code, specifications, system diagrams, comma-separated value data files, and email messages. *Id*. Storms also communicated this information to Lancium for the reasons set forth above with respect to claim 1. *Id*. Lancium did not separate contest the conception of these claims.

> **c.**   **Claims 9-12 and 18**

Dependent claims 9-12 and 18 depend from either claim 1 or claim 17, and add conventional features well-known in the art, each of which was incorporated into Storms' system and communicated to Lancium. PF 41. For example, claim 9 requires the control system be positioned remotely from the set of miners. *Id*. Storms' system included such functionality via its remotely controllable PDU. *Id*. Similarly, claim 10 requires the control system run on a mobile computing device, such as Storms' laptop. *Id*. Claim 12 adds that power option data is provided by a QSE, functionality that had been used in ERCOT for 20 years. *Id*. Storms conception is corroborated by contemporaneous documentation, including at least source code, specifications, system diagrams, comma-separated value data files, and email messages. *Id*. Lancium did not

separately contest the conception of these claims.

With respect to claim 18, Storms showed that the cgminer software he used provided the ability to increase the frequency at which the miner's operate. PF 7, 42.

d.   Claim 16

Dependent claim 16 closely aligns with all aspects of Storms' system. Claim 16 depends from claim 1, and adds specific data—"a price of power from the power grid; and a global mining hash rate and a price for a cryptocurrency"—and use that information to determine the performance strategy that instructions at least some miners "to perform mining operations for the cryptocurrency when the price of power from the power grid is equal to or less than a revenue obtained by performing the mining operations for the cryptocurrency." PF 42. Storms' system compared mining profitability and instructed miners to mine Bitcoin when mining revenue was greater than the price of power from the power grid as recited in claim 16. PF 42; Section II(B)(1). Storms also communicated this information to Lancium for the reasons set forth above with respect to claim 1. *Id.*

Specifically, as shown in the Data File, Storms' system compared the revenue obtained by performing mining operations for Bitcoin (mining_rev, column H), and mined Bitcoin in circumstances in which the price of power from the grid (real_time_LMP, column J) was equal or less than the revenue obtainable from mining Bitcoin. PF 43.

C.   After Storms communicated the inventions to them, McNamara and Cline did not independently conceive of the inventions

To prove his sole inventorship claim, Storms need only prove that he conceived of the claimed inventions and communicated those inventions to McNamara (and in turn, Cline). *Price*, 988 F.2d at 1190. After receiving Storms' documents, McNamara and Cline could not "independently" conceive of the inventions without knowing what Storms disclosed to them.

McNamara and Cline admit they did not conceive of the claimed inventions until the period of August through October 2019, months after Storms disclosed his system to them. PF 57-58. By then, they already have the benefit of Storms' disclosures. Lancium's tale of independent inventorship lacks support. Although Lancium flooded the court with voluminous documents showing that it was working on various projects before May 9, 2019, and working to implement various embodiments of the claimed inventions in late 2019, Lancium failed to present testimony or documents to sufficiently explain any independent inventorship theory. Neither Cline nor McNamara described their inventive activities such as the problem they set out to solve, why they solved it, how they solved it, or when they solved it.

According to Dr. Ehsani, Lancium had a "flash of insight" in August 2019 that led to the inventions of the '433 Patent, but the supporting email just describes how a third-party electricity broker explained a 20-year-old ERCOT market participant rule to Cline that he apparently did not already understand. PF 61. Lancium used this understanding to implement a particular embodiment of the claimed inventions to allow it to offer ancillary services. This supposed "flash of insight" does not show that Cline or McNamara invented anything. At most, this "flash of insight" relates to Lancium's efforts to commercialize an embodiment of Storms' inventions. This "flash of insight" is not conception; it is at best (late) recognition of a well-known, conventional form of commercializing a system within ERCOT and is therefore not inventorship. *FilmTec Corp. v. Hydranautics*, 982 F.2d 1546, 1552 (Fed. Cir. 1992) (commercialization is "certainly not required" for conception); *Eli Lilly & Co. v. Aradigm Corp.*, 376 F.3d 1352, 1362 (Fed. Cir. 2004) ("A contribution of information in the prior art cannot give rise to joint inventorship because it is not a contribution to conception.")

III.   **Alternatively, Storms Is at Least a Joint Inventor of the '433 Patent**

To be a joint inventor, an individual "must contribute to the invention's conception."

CODA Dev. S.R.O. v. Goodyear Tire & Rubber Co., 916 F.3d 1350, 1358 (Fed. Cir. 2019).

However, the "proof of conception by joint inventors *is not the same* as proof required of a sole

inventor." *Coleman v. Dines*, 754 F.2d 353, 361 (Fed. Cir. 1985) (emphasis added). This is

because a joint inventor does not need to "contribute to every claim—a contribution to one claim

is enough." *Id*. In fact, an alleged inventor need not even "contribute[] to the conception of all

the limitations in any one claim of the Patent." *Eli Lilly and Co. v. Aradigm Corp.*, 376 F.3d

1352, 1359 (Fed. Cir. 2004). Rather, "the law requires only that a co-inventor make a

contribution to the conception of the subject matter of a [single] claim." *Id*. As with sole

inventorship, a "rule of reason" analysis is applied to determine corroboration in the context of

joint inventorship. *Price*, 988 F.2d at 1195. Under this analysis an evaluation of all pertinent

evidence must be made. *Id*.

Moreover, it is not necessary that "the entire inventive concept should occur to each of

the joint inventors," so long as each inventor "makes some original contribution, though partial,

to the final solution of the problem." *Kimberly-Clark Corp. v. Procter & Gamble Distributing

Co.*, 973 F.2d 911, 916–917 (Fed. Cir. 1992).

1.   Storms' communications with Lancium satisfied the collaboration required for joint inventorship

To be joint inventors, there must be "some element of joint behavior." *Kimberly-Clark

Corp. v. Procter & Gamble Distrib. Co.*, 973 F.2d 911, 917 (Fed. Cir. 1992). However, all that is

required is "some quantum of collaboration or connection." *Id*. As such, "[t]he test for

establishing a quantum of collaboration between a party and named inventors is not demanding

and . . . has been satisfied by such tenuous collaborations as one inventor seeing the report of

another and building upon it, or merely hearing an inventive suggestion at a meeting." *Arbitron,

Inc. v. Kiefl*, 2010 WL 3239414, at *5-6 (S.D.N.Y. Aug. 13, 2010); *see also Coca-Cola Co. v.*

Pepsico, Inc., 2004 WL 4910334, at *39 (N.D. Ga. Sept. 29, 2004) (discussing "the low threshold of collaboration" required); *Kimberly-Clark Corp. v. Procter & Gamble Distrib. Co.*, 973 F.2d 911, 917 (Fed. Cir. 1992) ("one inventor seeing a relevant report and building upon it or hearing another's suggestion at a meeting" meets collaboration requirement).

That said, to establish sufficient collaboration, "[t]he inventors need not work physically together or contemporaneously to be joint inventors; nor must each inventor contribute equally or to each claim of the patent." *Univ. of Pittsburgh of Commonwealth Sys. of Higher Educ. v. Hedrick*, 573 F.3d 1290, 1297 (Fed. Cir. 2009). Accordingly, Storms proved this aspect of joint inventorship by his conversations with McNamara and the ensuing exchange of messages and documents (as discussed in greater detail above). PF 12.

2.   Storms' contributions were significant in both quantity and quality

To qualify as a joint inventor, an individual's contribution must be "not insignificant in quality, when that contribution is measured against the dimension of the full invention." *Fina Oil & Chem. Co.*, 123 F.3d 1466, 1473 (Fed. Cir. 1997). However, there is "no explicit lower limit on the quantum or quality of inventive contribution required for a person to qualify as a joint inventor." *Fina Oil*, 123 F.3d at 1473. Joint inventors need not (1) "physically work together or at the same time," (2) "make the same type or amount of contribution," or (3) "make a contribution to the subject matter of every claim of the patent." *Vanderbilt Univ. v. ICOS Corp.*, 601 F.3d 1297, 1302 (Fed. Cir. 2010) (citation omitted).

a.   "Monitored conditions"

Storms' contribution of monitored conditions, as recited in all 20 claims, was a significant contribution that forms a basis upon which the other aspects of the claim are built. As explained above, Storms' system monitored the same set of conditions identified in the '433 Patent—Bitcoin price, hashrate, network difficulty, the real-time market price for electricity, the

day-ahead market price for electricity, power usage and the state of the miners, such as whether a

miner was on or off and its recent performance metrics. Section II(B)(1)(b). In contrast,

Lancium's system as late as May 7, 2019, only monitored energy price and shut down miners

when the price of power was too high. PF 51.

b.   Claim 16

Storms also made a significant contribution in the form of his profitability analysis

embodied in claim 16. Specifically, as shown in the Data File, Storms' system compared the

revenue obtained by performing mining operations for Bitcoin (mining_rev, column H), and

mined Bitcoin in circumstances in which the price of power from the grid (real_time_LMP,

column J) was equal or less than the revenue obtainable from mining Bitcoin. PF 43.

IV.   Under the Rule of Reason, Lancium's Actions and Inactions are Pertinent Evidence of Storms' Inventorship

Before meeting Storms, Lancium's business was premised exclusively on cheap power;

turning Bitcoin miners off to avoid high prices. PF 51. Within weeks of meeting Storms and

receiving his documents, Lancium began commercializing his concepts by monitoring electricity

market pricing and variables informing Bitcoin mining profitability to form strategies for

monetizing Bitcoin miner downtime; rather than avoiding high prices, Lancium would profit

from them. PF 52. For example, by August 2019 Lancium fixed its electricity price and began

voluntarily shutting down miners when real-time electricity prices exceeded mining profitability

for particular time intervals, selling blocks of unused electricity back to the grid. Lancium also

pursued a CLR designation (at the suggestion of an electricity broker) so Lancium could sell its

capacity to the grid for a fee, allowing the grid to shut down Lancium' miners under similar high

price conditions (during which Lancium could also sell-back the unused power). At most,

Lancium's activities amount to commercializing Storms' concepts with known, conventional

ERCOT market tools. PF 45-48. But commercialization is not conception, nor does contributing

known, conventional elements make one an inventor. *FilmTec Corp. v. Hydranautics*, 982 F.2d

1546, 1552 (Fed. Cir. 1992); *Trovan*, 299 F.3d at 1302.

One of those known ERCOT market tools that Lancium used to commercialize Storms'

inventions was the CLR designations and associated ancillary services. Shortly after Lancium

began that commercialization (at the suggestion of MP2), Lancium realized it could command a

higher price for ancillary services fees if Lancium had the only load-only CLR in the market. As

a result, Lancium was motivated to pursue the '433 Patent in haste, failing to perform any

diligence on who the named inventors should be. PF 54.

Notably, other of Lancium's commercialization efforts bear a striking resemblance to the

documents Storms provided to Lancium on May 9, 2019. Dr. McCellan testified that

McNamara's "little sheet" includes the same monitored conditions, performance strategy, and

comparison of mining profitability to selling power in the RTM as Storms' Data File. PF 53;

Ethicon, Inc. v. U.S. Surgical Corp. at 1464 (similarities between the purported inventor's

document and the named inventor's document to be sufficient "circumstantial [evidence] further

corroborating [the purported inventor]'s conception claim").

Despite making the '433 Patent a centerpiece of Lancium's portfolio, raising $150

million from outside investors based on the '433 Patent and commercial embodiments of the

claimed inventions, and issuing a press release touting the '433 Patent as protecting "an essential

function" of Lancium's software, neither McNamara nor Cline were willing or able to describe

the invention or the boasted "essential function." PF 55, 64-65; *Advanced Magnetic Closures,*

Inc. v. Rome Fastener Corp., 2008 WL 2787981, *8–*10 (S.D. N.Y. 2008), aff'd in relevant part,

607 F.3d 817, 829–32 (Fed. Cir. 2010) (held named inventor was not the true inventor, stating

named inventor was either "unable or unwilling to articulate [his] claimed invention"). Similarly, Lancium presented no testimony at trial about McNamara's and Cline's joint inventorship collaboration; neither wrote any relevant code, and McNamara admitted he does not even read Lancium's code. PF 62-63. The decision to seek the '433 Patent was suggested by Cline at a meeting that McNamara did not even attend, and it is undisputed that Lancium never built, tested, or otherwise reduced its version of the patented invention to practice prior to filing its provisional application. PF 13, 59. This is not the typical behavior of true inventors.

Finally, Lancium's trial-inspired criticisms of Storms' inventions as old news should be contrasted with Lancium's statements behind closed doors, where Lancium cooed over the "new" ideas and gushed over their potential. PF 52. For example, in its "operational controls overview," dated May 7, 2019, days before receiving Storms' documents, Lancium described that it's system would simply "STOP HASHING" when the power price exceeds $100 per MWh. PF 51. By August 2019, however, Lancium was boasting its "new" ancillary services and arbitrage features, features embodying the concepts in Storms documents and claimed in the '433 Patent, and internally McNamara and Cline described as "a bigger opportunity than we yet realize," and reported to its investor SBI that these features were based on a "critical element" that they had "previously missed." Lancium considered Storms' concepts to have "practically no limit." PF 52.

V.   Conclusion

For at least the reasons stated, the Court should enter judgment naming Storms the sole inventor of the '433 Patent or, in the alternative, naming Storms a joint inventor.

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